

REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-3, 5-7, 9-11, 13-14, 16-18, 20-21, 23-27, 29-30, 32-34, 36-37, and 39-42 are pending. Claims 4, 8, 12, 15, 19, 22, 28, 31, 35, and 38 were previously canceled. No claims are presently amended or newly added. No new matter is added.

In the outstanding Office Action, Claims 1-42 were rejected under 35 U.S.C. § 112, second paragraph as indefinite. Claims 1, 25, 41, and 42 were rejected under 35 U.S.C. § 103(a) as obvious over Midgley (U.S. Patent No. RE 35,751, herein "Midgley") in view of Hilton (U.S. Patent No. 6,158,837, herein "Hilton") in view of Official Notice. Claims 2, 3, 7, 10-11, 18, 26, 27, and 34 were rejected under 35 U.S.C. § 103(a) as obvious over Midgley in view of Hilton and further in view of Kawano et al. (U.S. Patent No. 5,012,286, herein "Kawano"). Claims 5, 6, 9, 13, 14, 17, 20, 21, 23, 24, 29, 30, 32, 33, 36, 37, 39, and 40 were rejected under 35 U.S.C. § 103(a) as obvious over Midgley in view of Hilton in view of Kawano and further in view of Samuels (U.S. Patent No. 5,937,225, herein "Samuels").

Regarding the rejection of Claims 1-42 under 35 U.S.C. § 112, second paragraph, as indefinite, that rejection is respectfully traversed by the present response.

The section of Independent Claim 1 cited in the outstanding Office Action as indefinite recites, in part:

wherein the controller is configured to determine an image forming condition setting and to increment a cumulative number stored in memory in the apparatus body by a number other than one for each of the prints sequentially output with the replaceable part while the image forming condition setting is set to a first of at least two available image forming condition settings.

The outstanding Office Action states:

Again, from the arguments above, the claim that the applicant's invention counts by more than one creates issues when only

one page is printed. If the controller is configured to count by a number other than one, then a mistake would be made when only one page is printed and the controller is counting by, for example, 2 or more. This would cause the total number of cumulative prints to be incorrect by a significant amount if a large number of single page documents are to be created and would be unclear by what number would be incremented if only a single page is printed.¹

Accordingly, it appears that the outstanding Office Action asserts that independent Claim 1 recites an inoperable invention inasmuch as the invention recited in independent Claim 1 "would cause the total number of cumulative prints to be incorrect by a significant amount if a large number of single page documents are to be created and would be unclear by what number would be incremented if only a single page is printed."² In view of this assertion, the outstanding Office Action rejects Claims 1-42 as indefinite under 35 U.S.C. § 112, second paragraph.

However, Applicants respectfully submit that the standard for indefiniteness is set forth in 35 U.S.C. § 112, second paragraph, as follows:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the Applicant regards as his invention.³

Applicants respectfully submit that independent Claim 1 satisfies the requirements of 35 U.S.C. § 112, second paragraph inasmuch as independent Claim 1 particularly points out and distinctly claims the subject matter which Applicants regard as the invention recited in that claim. Additionally, Applicants respectfully note that the requirement under 35 U.S.C. § 112, second paragraph, does not relate to the subjective quality of performance of the claimed invention. Rather, 35 U.S.C. § 112, second paragraph, relates to whether the scope of the claim is clear to a hypothetical person possessing the ordinary level of skill in the pertinent

¹ Outstanding Office Action, page 3.

² Outstanding Office Action, page 3.

³ 35 U.S.C. § 112, second paragraph.

art.⁴ Applicants respectfully note that the outstanding Office Action appears to understand the scope of independent Claim 1, but merely objects to the function of the apparatus recited in independent Claim 1 in that the outstanding Office Action asserts that the apparatus recited in independent Claim 1 "creates issues when only one page is printed."⁵

Accordingly, Applicants respectfully submit that, as the scope of the independent Claim 1 is clear, and, as the subjective quality of the performance of the claimed invention is unrelated to whether a claim is definite, the rejection under 35 U.S.C. § 112, second paragraph, should be withdrawn.

Additionally, Applicants respectfully submit that Claim 1 recites that the controller is configured to determine an image forming condition setting and to increment a cumulative number stored in memory in the apparatus body by a number other than one for each of the prints sequentially output with the replaceable part. As discussed in numbered paragraphs [0052]-[0054], each print can be assigned a value such as 0.8 or 0.9, depending on which image forming condition is selected. As stated in numbered paragraph [0054], "this promotes accurate management of the limit of use of the process cartridge 2." Accordingly, not only is the feature of Claim 1 noted in the outstanding Office Action as creating inaccuracies clear and definite, but the feature provides a specific benefit as set forth in the specification.

The last paragraph of page 3 of the outstanding Office Action states:

In looking at P[0052] and Fig. 9 of the applicant's specification, S95 is still one possible print condition, it's just not condition A or B. Thus, by the fact that the count is set to 1, in the condition not A or B, the new limitations to the claim are rendered indefinite.

The above-quoted section of the outstanding Office Action appears to assert a lack of enablement of the claimed feature. Applicants respectfully submit that Claim 1 recites that the controller is configured to increment a cumulative number stored in memory in the

⁴ MPEP § 2171.

⁵ Outstanding Office Action, page 3.

apparatus body by a number other than one for each of the prints sequentially output with the replaceable part while the image forming condition setting is set to **a first of at least two** available image forming condition settings. Thus, the claim does not exclude the possibility of assigning a single print a value of 1. Accordingly, the claimed feature is fully enabled by the original disclosure.

Thus, the feature asserted in the outstanding Office Action in Claim 1 is clear, definite, and enabled, and Applicants respectfully request that the rejection of Claim 1 as indefinite be withdrawn.

The feature asserted in the outstanding Office Action as indefinite in independent Claim 1 is also recited in independent Claims 25, 41, and 42, and these independent claims are also clear and definite under the standard set forth in 35 U.S.C. § 112, second paragraph, and are fully enabled by the original disclosure. Accordingly, Applicants respectfully submit that as each of independent Claims 1, 25, 41, and 42 is clear and definite, the rejection of Claims 1-42 under 35 U.S.C. § 112, second paragraph, is overcome. The dependent claims appear to have been rejected under 35 U.S.C. § 112, second paragraph by virtue of their dependency from the independent claims, and Applicants respectfully submit that the dependent claims are also clear and definite.

Regarding the rejection of Claims 1, 25, 41, and 42 as obvious over Midgley in view of Hilton and further in view of Official Notice, that rejection is respectfully traversed by the present response.

Independent Claim 1 recites, in part:

storing means and first writable and readable
nonvolatile storing means built in said apparatus body;
second writable and readable nonvolatile storing means
built in the replaceable part; and
a controller configured to store a limit number of prints
particular to the replaceable part in said first nonvolatile storing
means, storing, after an image forming operation, a cumulative
number of prints printed by said replaceable part in said first

nonvolatile storing means at least until the replaceable part is replaced with a different replaceable part and in said second nonvolatile storing means, and reporting a time for replacing said replaceable part when said cumulative number stored in said first nonvolatile storing means exceeds said limit number of prints stored in said first nonvolatile storing means,

wherein the controller is configured to determine an image forming condition setting and to increment a cumulative number stored in memory in the apparatus body by a number other than one for each of the prints sequentially output with the replaceable part while the image forming condition setting is set to a first of at least two available image forming condition settings.

Accordingly, storing means and first writable and readable nonvolatile storing means are built into the apparatus body. Second writable and readable nonvolatile storing means are built into the replaceable part. The controller is configured to determine an image forming condition setting. The controller is configured to **increment a cumulative number** stored in memory in the apparatus body **by a number other than one for each of the prints sequentially output** with the replaceable part while the image forming condition setting is set to a first of at least two available image forming condition settings.

The outstanding Office Action states "the main argument is that the applicant's invention counts by a number other than one while the Midgley reference counts by one."⁶ However, Applicants respectfully note that independent Claim 1 recites that the controller is configured to determine an image forming condition setting and to **increment** a cumulative number stored in a memory in the apparatus body by a number other than one for **each** of the prints sequentially output with the replaceable part. Accordingly, the controller does not "count" by a number other than one in the sense that the controller does not take note of each print; the controller is configured to **increment** a cumulative number stored in memory in the apparatus body by a number other than one.

⁶ Outstanding Office Action, page 2.

The outstanding Office Action acknowledges that Midgley does not disclose "storing, after an image forming operation, a cumulative number of prints printed by said replaceable part in said storing means at least until the replaceable part is replaced with a different replaceable part and in said second nonvolatile storing means."⁷ The outstanding Office Action relies on Official Notice that "'storing after an image forming operation, a cumulative number of prints printed by said replaceable part' is calculated using the addition/subtraction of numbers, which is well-known."⁸ Applicants respectfully submit that while some references cited during the prosecution history of this application store various numbers of prints, Applicants respectfully traverse the assertion that "storing, after an image forming operation, a cumulative number of prints printed by a replaceable part" is always mere addition/subtraction of numbers. Rather, as discussed in the previous response and recited in independent Claim 1, the particular location in which a cumulative number of prints is stored and the manner in which the cumulative number is calculated is not merely a matter of addition/subtraction as asserted in the outstanding Office Action. The location in which the cumulative number is stored has criticality inasmuch as it affects whether the stored number travels with the replaceable part or remains within the image forming apparatus, and the manner in which the cumulative number is calculated involves more than the mere addition/subtraction of numbers inasmuch as different settings assign numbers other than one to each print. As recited in independent Claim 1, the cumulative number is incremented by a number other than one for each of the prints sequentially output with the replaceable part while the image forming condition setting is set to a first of at least two available image forming condition settings. In other words, the cumulative number is not incremented by mere addition/subtraction of each print, but by incrementation with a number other than one.

The outstanding Office Action states:

⁷ Outstanding Office Action, page 6.

⁸ Outstanding Office Action, page 6.

Semma also does not explicitly disclose "wherein the controller is configured to determine an image forming condition setting and to increment a cumulative number stored in memory in the apparatus body by a number other than one for each of the prints sequentially output with the replaceable part while the image forming condition setting is set to a first of at least two available image forming condition settings."

However, Hilton discloses in Fig. 5 and column 6, lines 13-38 that the total count can be decremented after the job is completed, meaning it can decrement by a count other than 1.

Semma and Hilton are combinable because both are in the art of totaling printed pages to enable an user to know when a cartridge should be replaced.⁹

It appears that the outstanding Office Action intended to state "Midgley also does not explicitly disclose ..." rather than "Semma also does not explicitly disclose ..." inasmuch as Semma is the first-named inventor in the present application, and Midgley is the primary reference asserted against the rejected claims. Accordingly, the outstanding Office Action, as understood when Midgley is substituted for Semma on page 7, acknowledges that Midgley fails to disclose "wherein the controller is configured to determine an image forming condition setting and to increment a cumulative number stored in memory in the apparatus body by a number other than one for each of the prints sequentially output with the replaceable part while the image forming condition setting is set to a first of at least two available image forming condition settings."

The outstanding Office Action relies on Hilton for the above-noted feature. However, Applicants respectfully submit that Claim 1 recites "the controller is configured to determine an image forming condition setting and to increment a cumulative number stored in memory in the apparatus body by a number other than one for **each** of the prints sequentially output with the replaceable part." The controller is configured to determine an image forming condition setting and to increment the cumulative number while the image forming condition setting is set to a first of at least two available image forming condition settings.

⁹ Outstanding Office Action, page 7, lines 6-15 (emphasis added).

The outstanding Office Action asserts that in Hilton, a "total count can be decremented after a job is completed," and the outstanding Office Action asserts that this type of decrementation correlates to incrementing a cumulative number stored in memory in the apparatus body by a number other than one for each of the prints sequentially output with the replaceable part.¹⁰

However, Applicants respectfully submit that decrementing a total count after a job is completed, e.g., decrementing the count by five when five prints are made, is not the same as incrementing a cumulative number by a number **other than one for each of the prints sequentially output** with the replaceable part as recited in independent Claim 1. Rather, Hilton states, in the section cited in the outstanding Office Action, "the counting system is a decrementing type system with the maximum count in the chips being decremented **after the total job is completed**."¹¹ In other words, if Hilton has a print job with seven prints, Hilton will decrement the maximum count in the memory chips by seven. Thus, Hilton counts each sheet as one and reduces the maximum count in the memory chips by the total number of sheets. Hilton assigns a value of one to each sheet and decrements the maximum count by exactly the number of sheets printed. For each sheet printed, Hilton decrements the maximum count by one, even if the decrementing occurs all at once at the end of a job. Thus, Hilton does not increment a cumulative number stored in memory in the apparatus body by a number **other than one for each of the prints sequentially output** with the replaceable part. Accordingly, Applicants respectfully submit that Hilton fails to remedy the deficiencies discussed above regarding Midgley and Official Notice, and Applicants respectfully submit that amended independent Claim 1 patentably distinguishes over any proper combination of Midgley, Hilton, and Official Notice for at least the reasons discussed above.

¹⁰ Outstanding Office Action, page 7.

¹¹ Hilton, col. 6, lines 34-37.

Independent Claims 25, 41, and 42 recite substantially similar features to those discussed above regarding independent Claim 1 and patentably distinguish over any proper combination of Midgley, Hilton and Official Notice for at least the same reasons as independent Claim 1 does.

Claims 2, 3, 7, 10, 11, 18, 26, 27, and 34 each depend from one of amended independent Claims 1 and 25 and patentably distinguish over any proper combination of Midgley, Hilton, and Official Notice for at least the reasons discussed above regarding independent Claims 1 and 25.

Kawano fails to remedy the deficiencies discussed above regarding Midgley and Official Notice. Rather, Kawano describes an image forming apparatus including a means for comparing concentration signals correlated to toner concentrations. Kawano does not provide a controller that is configured to increment a stored cumulative number of prints by a number other than one **for each of the prints** output by its printer cartridge while an image forming condition setting is set to a first of at least two available image forming condition settings. Rather, Kawano merely updates a number of prints stored in a memory (122) one-by-one each time the cartridge performs a printing operation.¹² Thus, no proper combination of Midgley, Hilton, Kawano, and Official Notice would include all of the features recited in either of independent Claims 1 and 25. Accordingly, dependent Claims 2, 3, 7, 10, 11, 18, 26, 27, and 34 patentably distinguish over any proper combination of the cited references for at least the same reasons as independent Claims 1 and 25 do.

Regarding the rejection of Claims 5, 6, 9, 13, 14, 16, 17, 20, 21, 23, 24, 29, 30, 32, 33, 36, 37, 39, and 40 as obvious over Midgley in view of Hilton in view of Kawano and further in view of Samuels, that rejection is respectfully traversed by the present response.

¹² Kawano, col. 7, lines 42-44.

Samuels fails to remedy the deficiencies discussed above regarding Midgley, Hilton, and Kawano. Rather, Samuels describes a method of monitoring toner used in a printer cartridge by counting pixels printed by the cartridge. Samuels does not count prints. Accordingly, Applicants respectfully submit that the rejection of Claims 5, 6, 9, 13, 14, 16, 17, 20, 21, 23, 24, 29, 30, 32, 33, 36, 37, 39, and 40 is overcome.

Additionally, the outstanding Office Action states that it would be "a matter of preference" as to which memory to use to store a cumulative number of prints that have been made by the cartridge.¹³ However, as noted in the response filed November 13, 2006, a specific benefit results from placing the device used to store the cumulative number of prints in the apparatus body in that the device used to store this value will remain with the apparatus body even when the replaceable part is discarded. Thus, the storing means used to store a cumulative number of prints printed "at least until the replaceable part is replaced" can be used over and over again with multiple replacement parts regardless of whether the replaceable parts are eventually destroyed. Thus, waste is prevented and it is not merely a "matter of preference" as to where to store the value of the cumulative number of prints. Accordingly, Applicants respectfully submit that the statement on page 6 of the outstanding Office Action regarding "preference" is successfully traversed.

Applicants wish to make the following additional remarks regarding dependent claims.

Dependent Claim 3 recites:

The apparatus as claimed in claim 2, further comprising means for allowing the limit number of prints to be variably written to said first nonvolatile storing means.

Accordingly, the apparatus further comprises means for allowing a limit number of prints to be variably written to the first nonvolatile storing means.

¹³ Outstanding Office Action, page 6 (this seems to be an assertion that the location is merely design choice).

Regarding dependent Claim 3, the outstanding Office Action states:

One skilled in the art knows that prints from each new job that occurs can be different, i.e., variable, so a variable number can be written to the RAM during different print jobs.¹⁴

However, Applicants respectfully submit that the **nonvolatile** storing means is not RAM as asserted in the outstanding Office Action. Further, Claim 3 recites that the apparatus comprises means for allowing a **limit number** of prints to be variably written. Applicants respectfully submit that the fact that each new job can be different is irrelevant to whether a **limit number** of prints is variable written to anything, much less a nonvolatile storing means as recited in dependent Claim 3.

Midgley describes a maximum image count (Y) stored in memories (90) of the cartridges (12), (14), and (16). The maximum image count (Y) is pre-programmed into the memories (90) at the factory. Accordingly, assuming *arguendo* that the maximum image count (Y) correlates to a limit number as is apparently asserted in the outstanding Office Action at page 6, paragraph 2, the limit number would be stored in the memories (90) in the cartridges (12), (14), and (16). The memories (90) are not disposed within the apparatus body. Therefore, the memories (90) of Midgley do not correlate to the first nonvolatile storing means recited in dependent Claim 3, which is disposed in the apparatus body. Accordingly, Applicants respectfully submit that dependent Claim 3 further patentably distinguishes over any reasonable combination of the cited references for at least the additional reasons discussed above.

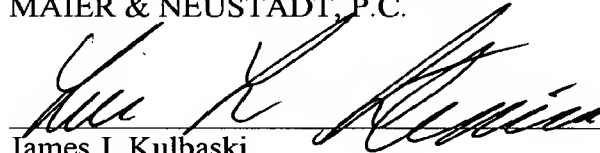
Dependent Claims 11, 18, 27, and 34 each recite substantially similar features to those discussed above regarding dependent Claim 3 and further patentably distinguish over any proper combination of the cited references for at least the same reasons as discussed above regarding dependent Claim 3.

¹⁴ Outstanding Office Action, page 12, commenting on dependent Claim 3.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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